

1642

RECEIVED

AUG 30 2002

TECH CENTER 1600/2900



1600

RAW SEQUENCE LISTING

DATE: 08/21/2002

PATENT APPLICATION: US/09/591,500

TIME: 15:42:58

Input Set : D:\Sequence List 8211247_1.txt

Output Set: N:\CRF3\08212002\I591500.raw

ENTERED

3 <110> APPLICANT: Pasternack, Gary R.
 4 Kocheavar, Gerald J.
 5 Brody, Jonathan R.
 6 Kodkol, Shrihari S.
 8 <120> TITLE OF INVENTION: GENE FAMILY WITH TRANSFORMATION MODULATING ACTIVITY
 10 <130> FILE REFERENCE: 031787.0076
 12 <140> CURRENT APPLICATION NUMBER: US 09/591,500
 13 <141> CURRENT FILING DATE: 2000-12-06
 15 <150> PRIOR APPLICATION NUMBER: PCT/US98/26433
 16 <151> PRIOR FILING DATE: 1998-12-11
 18 <150> PRIOR APPLICATION NUMBER: US 60/069,677
 19 <151> PRIOR FILING DATE: 1997-12-11
 21 <160> NUMBER OF SEQ ID NOS: 51
 23 <170> SOFTWARE: PatentIn version 3.1
 25 <210> SEQ ID NO: 1
 26 <211> LENGTH: 5785
 27 <212> TYPE: DNA
 28 <213> ORGANISM: Homo sapiens
 30 <220> FEATURE:
 31 <221> NAME/KEY: CDS
 32 <222> LOCATION: (4453)..(5154)
 33 <223> OTHER INFORMATION:
 36 <400> SEQUENCE: 1
 37 aagcttttccct gatctctataa tcaagggtcag ctccctaagc tcttggtctcc cgtactgaaa 60
 39 cttttttctta tgtaactctc ataaacacat agcataatgt tttgcatgtt tttcttccct 120
 41 atcagttgca agttccagca gagctgatat attttcattt cattcgctac tatagcccta 180
 43 gagcctgaca tagtttcttg ctgtgaatgc tcaataaata tttgtttaat tgagtagaaa 240
 45 cataaagtat ctatttcatt gaaggaaaga ataattagct acatttttct ttttcttgcc 300
 47 ttaatatattg aggaatttgc ttatatgtca taataaaaaa gttaaagcct tatacattat 360
 49 actaaggaat ttggacatta aattcaagct agcctttcta taaacaaaat actgaatttc 420
 51 tgtccctaaa tttgttccct ccctattctt ccccatgtag atgacaccaa atccctctag 480
 53 ctgctcaaac caagtaccgc tatgttatct ttaattatct ctttaccttg cttctcatat 540
 55 gcaatttggt aacaagtcac ctccagtcgt tatccattat tctcccttc cagaccacca 600
 57 acatgtcttg actatactgc tacaatagcc tcccaactct tgtcctactt aaaattcatt 660
 59 gtaaaaaatc agtcttggtc gggcacgggt gctcacacct ataatcccag cactttggga 720
 61 gtcccaggcg ggcgggtcac gaggtcaaga gatggagacc atcatggcca acatggtgaa 780
 63 accctgtctc tactataaat acaaaaaaat tatctgggtg tgggtggcaca tgccgtgaa 840
 65 cccaactact agggaggctg aggcaggaga atcgcttgaa cctgggaggc ggagggtgca 900
 67 gtgagccgag atcgacccat tgcactccag cctggcaaca gagcgagact ccatcccaa 960
 69 acaaaaacaaa acaaaacccat gtaaaacatg tctgtaaaac atgtcagatt tcgtgttcag 1020
 71 aagtcttaca tgtcttttca ttatgctaag ataaaacca aatgcatttt cttggtttct 1080
 73 aaagccaaga aaataagagt tgctttcagc aacctgtgtt cttccgcat gcttttccct 1140
 75 agctcactct ttttaggcaa gtcgacctga ttttcttctt gttagtctgt ttctgcctcg 1200

RECEIVED

SEP 05 2002

OFFICE OF PETITIONS

RAW SEQUENCE LISTING

PATENT APPLICATION: US/09/591,500

DATE: 08/21/2002

TIME: 15:42:58

Input Set : D:\Sequence List 8211247_1.txt

Output Set: N:\CRF3\08212002\I591500.raw

77	tggtctggct	ttctttctgt	tagtctgttt	ccacctcgtg	gtcttgggcc	tggtctttca	1260
79	ttctgcctgg	aatgctctcc	actccagatc	cttactagat	cttagctcag	tcatcacccct	1320
81	cgcaggaaaga	tcttccaacc	attcacctgc	atacacctat	ggctgctccc	tagagaaacat	1380
83	cattctgttt	tcttcacttc	ctagcactta	ctgctttctg	aaattatcta	ctttgattgt	1440
85	ttatttcttt	ctttactctt	actaggatac	ctgggtcatt	aaaggaggga	tatttctctc	1500
87	ttatttactg	ttataaaactt	aatgcttagg	ctgtagaagt	tatacaatat	ttgaagaata	1560
89	aatcggttaa	tgtataacat	ttttgaagaa	agataattgt	gggatccatt	tagtttgcaa	1620
91	acatttgatc	tgtgtgttag	acagaaggcc	atggtaaagg	acaaagacat	attttatagg	1680
93	actgtaccct	gaaaaataaa	taaacttgaa	ccagttatac	aagacttatg	tgcaggaaac	1740
95	aggtaccagt	tatatttaga	aatggtaa	caccttctaa	gcataactca	gagcacaata	1800
97	tattagagg	tagagagaga	agtgcgtctt	agatattggt	aatcatatta	ggactgacgc	1860
99	catccttgat	ttttctctg	ggaaacagct	caaatgact	atttaattgt	tacaatgata	1920
101	tcttgcatct	tgccagtaaa	taatataata	gacactagga	atccaaattg	taagatgaac	1980
103	aagtctttat	agaggagag	ccaaatacac	aataaataac	acaagggtgt	aatgacagta	2040
105	atacaaacat	acataccatg	cataggagt	cagagaaggt	gtgcttctcc	gaatgcagtc	2100
107	accagaaag	tccttctgta	gaaagggata	tcttaaatgg	tgttaaagg	aaaagtaacc	2160
109	aaaggcaact	aaagattgca	aggaggtccc	aggaaaaagc	aaaagaacca	aaggtacata	2220
111	ggcacaaaag	tagctgcct	tcctgggaac	ttccaatagt	ttgctggagc	acacagttag	2280
113	aagtactgtg	ccatgggagc	aaagactgaa	gacatatgca	ggttcaagg	cacagagccc	2340
115	catatatgtc	atgataagat	attgggaagc	cactggggag	ctactgaaac	tttaagcagg	2400
117	gaaataaaat	tgtcatatct	acaccttaga	aatttgattt	ttttctcttc	ttttatcttc	2460
119	tcttctcttc	tcttctctct	ctctctctct	ctctctctct	gtgtgtgtgt	gtgtgtgtgt	2520
121	gtgtgtgtgt	gacagagtc	tgctctgtca	cccaggctgg	agtgtagtgg	agtgtctctc	2580
123	gcttactgca	gtctctgcct	ctcaagcgat	tcctgctc	agcctcccga	gtagctggga	2640
125	ttacaggcgg	gctctacaac	agctggctaa	cttttgattt	ttttggtaac	aaccagggtt	2700
127	taccatgttg	gccaggctgg	tcttgaactc	ctgacctcag	gtgatctgcc	tgcttggct	2760
129	ttccaaagt	ctgggattac	aggcgtgagc	cacctgcct	ggtgtagaag	tttgattttg	2820
131	atgtcagtg	ggtagatgaa	tttggtggaa	gcaaaacaag	atagagtcca	atgacagtga	2880
133	aaagtgttatt	gtataagcta	tataaaagaa	aatgttgaag	gtttgaaatc	cattagtggc	2940
135	agtaagggtg	tacagaacga	aactatttga	gaagtacaca	aggcaagtct	tactttcaag	3000
137	gcagtttatg	taagctcatt	caattgtctc	agtgttcttg	ctatgtgtgg	gttataggat	3060
139	ttggaacata	tgatcaatct	gagcacacat	cagtaaacctg	aataggatta	ttaaaatcca	3120
141	caagcatttt	actagtggaa	tctgtgatat	tttctagcta	ctcttgcttg	ttttatttga	3180
143	atcttttgc	catatcctat	agtaaagatt	tcaggaaata	tatttttatt	tgcttagaat	3240
145	tttagccttt	tagttttttg	aatctattgc	tcatattctt	atagtaagag	tttcagggaa	3300
147	tgtatttcta	tttgtctgga	attttagcct	ttcagggttt	tgagcccctc	ttttgcttat	3360
149	gggacatagt	atgagacaag	atgaaatgat	acttctattc	ccaattcact	gatggggaaa	3420
151	atgaagcaaa	aaatgttatt	cactcaaggc	ttctgccatg	tttctgtgtg	gaattacggc	3480
153	tcagacacaa	atttctaat	gcctgtgctg	ctaacttctc	aatagaacac	tatattaatt	3540
155	tatcttcttc	ctgagtgttt	ttccacaaat	cccatagcct	gtgaaaagat	tgttttagg	3600
157	aaatattatt	tttaatatag	catattttgt	caatgtggga	cataggacta	gtacctgctg	3660
159	aaaaccatct	catgatcctt	gtgtaagaac	taattcacac	tagaaatact	attttctctg	3720
161	ctcattaaaa	acataaatgt	ctcagaaagt	aaaaaattat	tcctctctaa	ataaacatac	3780
163	atgccactca	aattttatct	ctctaccact	tgccgtatct	aaacctagtt	agatactttg	3840
165	gttttaggta	taatctgaca	gaacagatac	aaccaagatc	acattgtgag	tcagaagtgg	3900
167	aaaattcata	attcatgatg	ataccaataa	aagatagatt	tagcttttta	caggatgttt	3960
169	ttggcatttt	attctttcat	ttgaggggag	atctcaccaa	aatatgtctt	tcattggttca	4020
171	ttgtgttatt	taatttctgt	gatgcataat	ctcagggttac	tttaaacctc	gtctatagat	4080
173	tcaaagatat	cccgtgtcag	gtctctaaaa	gtaaaaagaa	aaatgggtac	ttgtgaaggc	4140

RAW SEQUENCE LISTING

DATE: 08/21/2002

PATENT APPLICATION: US/09/591,500

TIME: 15:42:58

Input Set : D:\Sequence List 8211247_1.txt

Output Set: N:\CRF3\08212002\I591500.raw

```

175 tgattcacag taagtagtgt agaggggagt gccttggtga ttcacaaatt atcaacgtga 4200
177 gcatcagata agattttctt tagtcacaca cacctacctt cttactagga agatccatat 4260
179 acttgaataa ttgttctgct tgaccaggt tacttatcag tccctttatt ataattttg 4320
181 taaatatttg ggctcgagaa ccgagcggag ctggttgagt cttcaaagtc ctaaaacgtg 4380
183 cggccgtggg ttogaggttt attgattgaa ttcggctggc acgagagcct ctgcagacag 4440
185 agagcgcgag ag atg gag atg ggc aga cgg att cat tca gag ctg cgg aac 4491
186 Met Glu Met Gly Arg Arg Ile His Ser Glu Leu Arg Asn
187 1 5 10
189 agg gcg ccc tct gat gtg aaa gaa ctt gcc ctg gac aac agt cgg tcg 4539
190 Arg Ala Pro Ser Asp Val Lys Glu Leu Ala Leu Asp Asn Ser Arg Ser
191 15 20 25
193 aat gaa ggc aaa ctc gaa gcc ctc aca gat gaa ttt gaa gaa ctg gaa 4587
194 Asn Glu Gly Lys Leu Glu Ala Leu Thr Asp Glu Phe Glu Glu Leu Glu
195 30 35 40 45
197 ttc tta agt aaa atc aac gga ggc ctc acc tca atc tca gac tta cca 4635
198 Phe Leu Ser Lys Ile Asn Gly Gly Leu Thr Ser Ile Ser Asp Leu Pro
199 50 55 60
201 aag tta aag ttg aga aag ctt gaa cta aga gtc tca ggg ggc ctg gaa 4683
202 Lys Leu Lys Leu Arg Lys Leu Glu Leu Arg Val Ser Gly Gly Leu Glu
203 65 70 75
205 gta ttg gca gaa aag tgt cca aac ctc acg cat cta tat tta agt ggc 4731
206 Val Leu Ala Glu Lys Cys Pro Asn Leu Thr His Leu Tyr Leu Ser Gly
207 80 85 90
209 aac aaa att aaa gac ctc agc aca ata gag cca ctg aaa cag tta gaa 4779
210 Asn Lys Ile Lys Asp Leu Ser Thr Ile Glu Pro Leu Lys Gln Leu Glu
211 95 100 105
213 aac ctc aag agc tta gac ctt ttc aat tgc gag gta acc aac ctg aac 4827
214 Asn Leu Lys Ser Leu Asp Leu Phe Asn Cys Glu Val Thr Asn Leu Asn
215 110 115 120 125
217 gac tac gga gaa aac gtg ttc aag ctt ctc ctg caa ctc aca tat ctc 4875
218 Asp Tyr Gly Glu Asn Val Phe Lys Leu Leu Leu Gln Leu Thr Tyr Leu
219 130 135 140
221 gac agc tgt tac tgg gac cac aag gag gcc cct tac tca gat att gag 4923
222 Asp Ser Cys Tyr Trp Asp His Lys Glu Ala Pro Tyr Ser Asp Ile Glu
223 145 150 155
225 gac cac gtg gag ggc ctg gat gac gag gag gag ggt gag cat gag gag 4971
226 Asp His Val Glu Gly Leu Asp Asp Glu Glu Glu Gly Glu His Glu Glu
227 160 165 170
229 gag tat gat gaa gat gct cag gta gtg gaa gat gag gag ggc gag gag 5019
230 Glu Tyr Asp Glu Asp Ala Gln Val Val Glu Asp Glu Glu Gly Glu Glu
231 175 180 185
233 gag gag gag gaa ggt gaa gag gag gac gtg agt gga ggg gac gag gag 5067
234 Glu Glu Glu Glu Gly Glu Glu Glu Asp Val Ser Gly Gly Asp Glu Glu
235 190 195 200 205
237 gat gaa gaa ggt tat aac gat gga gag gta gat ggc gag gaa gat gaa 5115
238 Asp Glu Glu Gly Tyr Asn Asp Gly Glu Val Asp Gly Glu Glu Asp Glu
239 210 215 220
241 gaa gag ctt ggt gaa gaa gaa agg ggt cag aag cga aaa tgagaacctg 5164
242 Glu Glu Leu Gly Glu Glu Glu Arg Gly Gln Lys Arg Lys

```

RAW SEQUENCE LISTING

DATE: 08/21/2002

PATENT APPLICATION: US/09/591,500

TIME: 15:42:58

Input Set : D:\Sequence List 8211247_1.txt

Output Set: N:\CRF3\08212002\I591500.raw

```

243          225          230
245 aagatgaggg agaagatgat gactaagtag aataacctat tttgaaaaat tcctattgtg 5224
247 atttgactgt ttttaccat atcccctccc ccctccaatc ctgccccctg aaacttactt 5284
249 ttttctgatt gtaacattgc tgtgggaatg agacgggaaa agtgtactgg gggttgtgga 5344
251 gggaggaggg gcaggaggcg gtggactaaa atactathtt tactgcaaaa taaaataata 5404
253 tttgtaaata ttaactggga tactagcttt gtagaatgat tactattaat tattctctct 5464
255 ctctttttat ttttttacac attctattct ttttaagtata gtccttttag tccaaggaaa 5524
257 aggcactaca atccacttat taatgcttgc tactgtgttc aagtaaaaata agctccagga 5584
259 tttaacaaaa agaggaaaga aaatattttac aatgaaaatg ttgctaaaaa tttaaaacaa 5644
261 attacagtaa atgtattgtt aaagcaaatt ctatttttaa aattttattaa taaggaaata 5704
263 atttgctaaa gcaaatTTTT ggaaaaataa taatgcactt tataacttgat tttattttatt 5764
265 aaaacaatga tttataagct t 5785
268 <210> SEQ ID NO: 2
269 <211> LENGTH: 234
270 <212> TYPE: PRT
271 <213> ORGANISM: Homo sapiens
273 <400> SEQUENCE: 2
275 Met Glu Met Gly Arg Arg Ile His Ser Glu Leu Arg Asn Arg Ala Pro
276 1 5 10 15
279 Ser Asp Val Lys Glu Leu Ala Leu Asp Asn Ser Arg Ser Asn Glu Gly
280 20 25 30
283 Lys Leu Glu Ala Leu Thr Asp Glu Phe Glu Glu Leu Glu Phe Leu Ser
284 35 40 45
287 Lys Ile Asn Gly Gly Leu Thr Ser Ile Ser Asp Leu Pro Lys Leu Lys
288 50 55 60
291 Leu Arg Lys Leu Glu Leu Arg Val Ser Gly Gly Leu Glu Val Leu Ala
292 65 70 75 80
295 Glu Lys Cys Pro Asn Leu Thr His Leu Tyr Leu Ser Gly Asn Lys Ile
296 85 90 95
299 Lys Asp Leu Ser Thr Ile Glu Pro Leu Lys Gln Leu Glu Asn Leu Lys
300 100 105 110
303 Ser Leu Asp Leu Phe Asn Cys Glu Val Thr Asn Leu Asn Asp Tyr Gly
304 115 120 125
307 Glu Asn Val Phe Lys Leu Leu Leu Gln Leu Thr Tyr Leu Asp Ser Cys
308 130 135 140
311 Tyr Trp Asp His Lys Glu Ala Pro Tyr Ser Asp Ile Glu Asp His Val
312 145 150 155 160
315 Glu Gly Leu Asp Asp Glu Glu Glu Gly Glu His Glu Glu Glu Tyr Asp
316 165 170 175
319 Glu Asp Ala Gln Val Val Glu Asp Glu Glu Gly Glu Glu Glu Glu Glu
320 180 185 190
323 Glu Gly Glu Glu Glu Asp Val Ser Gly Gly Asp Glu Glu Asp Glu Glu
324 195 200 205
327 Gly Tyr Asn Asp Gly Glu Val Asp Gly Glu Glu Asp Glu Glu Glu Leu
328 210 215 220
331 Gly Glu Glu Glu Arg Gly Gln Lys Arg Lys
332 225 230
335 <210> SEQ ID NO: 3
336 <211> LENGTH: 889

```

RAW SEQUENCE LISTING

DATE: 08/21/2002

PATENT APPLICATION: US/09/591,500

TIME: 15:42:58

Input Set : D:\Sequence List 8211247_1.txt

Output Set: N:\CRF3\08212002\I591500.raw

```

337 <212> TYPE: DNA
338 <213> ORGANISM: Homo sapiens
340 <400> SEQUENCE: 3
341 ggggttcgagg tttattgatt gaattcggct ggcacgagag cctctgcaga cagagagcgc      60
343 gagagatgga gatgggcaga cggattcatt cagagctgcg gaacagggcg ccctctgatg      120
345 tgaagaact tgccctggac aacagtcggt cgaatgaagg caaactcgaa gccctcacag      180
347 atgaatttga agaactggaa ttcttaagta aaatcaacgg aggcctcacc tcaatctcag      240
349 acttaccaaa gttaaagttg agaaagcttg aactaagagt ctcaaggggc ctggaagtat      300
351 tggcagaaaa gtgtccaaac ctacgcctc tatatttaag tggcaacaaa attaaagacc      360
353 tcagcacaat agagccactg aaacagttag aaaacctcaa gagcttagac cttttcaatt      420
355 gcgaggtaac caacctgaac gactacggag aaaacgtgtt caagcttctc ctgcaactca      480
357 catatctcga cagctgttac tgggaccaca aggaggcccc ttactcagat attgaggacc      540
359 acgtggaggg cctggatgac gaggaggagg gtgagcatga ggaggagtat gatgaagatg      600
361 ctcaagtagt ggaagatgag gagggcgagg aggaggagga ggaaggtgaa gaggaggacg      660
363 tgagtggagg ggacgaggag gatgaagaag gttataacga tggagaggta gatggcgagg      720
365 aagatgaaga agagcttggt gaagaagaaa ggggtcagaa gcgaaaatga gaacctgaag      780
367 atgagggaga agatgatgac taagtagaat aacctatttt gaaaaattcc tattgtgatt      840
369 tgactgtttt taccatatac cctccccccc tccaatcctg cccctgaa      889
372 <210> SEQ ID NO: 4
373 <211> LENGTH: 907
374 <212> TYPE: DNA
375 <213> ORGANISM: Homo sapiens
377 <400> SEQUENCE: 4
378 ggggttcgggg tttattgatt gaattcggct ggcgcgggag cctctgcaga gagagagcgc      60
380 gagagatgga gatgggcaga cggattcatt tagagctgcg gaacgggacg ccctctgatg      120
382 tgaagaact tgcctggac aacagtcggt cgaatgaagg caaactcgaa gccctcacag      180
384 atgaatttga agaactggaa ttcttaagta caatcaacgt aggcctcacc tcaatcgcaa      240
386 acttaccaaa gttaaacaaa cttaagaagc ttgaactaag cagtaacaga gcctcagtgg      300
388 gcctagaagt attggcagaa aagtgtocaa acctataca tctaaattta agtggcaaca      360
390 aaattaaaga cctcagcaca atagagcccc tgaaaaagtt agaaaacctc gagagcttag      420
392 accttttcac ttgcgaggta accaacctga acaactactg agagaagatg ttcaagctcc      480
394 tcctgcaact cacatatctc aacggctgtg acccggtatg caaggaggcc cctaactcgg      540
396 atggtgaggg ctttgtggag tgctggatg acaaggagga ggatgaggat gaggaggagt      600
398 atgatgaaga tgctcaggta atggaagatg aggaggacga ggatgaggag gaggaacgtg      660
400 aagaggagga cgtgagtgga gacgaggagg agaaggatga aggttataac aatggagagg      720
402 tagatgatga ggaagatgaa gaagagcttg gtgaagaaga aaggggtcag aagcgaatat      780
404 aagaaactga agatgaggga gaagacgatg cctaagtgga ataacttatt ttgaaaaatt      840
406 ccttttgtga ttttactgtt tttagccgta cccctctccc ccccccactc taatcctgcc      900
408 cctgaa
411 <210> SEQ ID NO: 5
412 <211> LENGTH: 130
413 <212> TYPE: PRT
414 <213> ORGANISM: Homo sapiens
416 <400> SEQUENCE: 5
418 Met Glu Met Gly Arg Arg Ile His Leu Glu Leu Arg Asn Gly Thr Pro
419 1 5 10 15
422 Ser Asp Val Lys Glu Leu Val Leu Asp Asn Ser Arg Ser Asn Glu Gly
423 20 25 30
426 Lys Leu Glu Gly Leu Thr Asp Glu Phe Glu Glu Leu Glu Phe Leu Ser

```

VERIFICATION SUMMARY

PATENT APPLICATION: US/09/591,500

DATE: 08/21/2002

TIME: 15:42:59

Input Set : D:\Sequence List 8211247_1.txt

Output Set: N:\CRF3\08212002\I591500.raw